
Loss, Trauma, and Human Resilience

Have We Underestimated the Human Capacity to Thrive After Extremely Aversive Events?

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Many people are exposed to loss or potentially traumatic events at some point in their lives, and yet they continue to have positive emotional experiences and show only minor and transient disruptions in their ability to function. Unfortunately, because much of psychology's knowledge about how adults cope with loss or trauma has come from individuals who sought treatment or exhibited great distress, loss and trauma theorists have often viewed this type of resilience as either rare or pathological. The author challenges these assumptions by reviewing evidence that resilience represents a distinct trajectory from the process of recovery, that resilience in the face of loss or potential trauma is more common than is often believed, and that there are multiple and sometimes unexpected pathways to resilience.

Most people are exposed to at least one violent or life-threatening situation during the course of their lives (Ozer, Best, Lipsey, & Weiss, 2003). As people progress through the life cycle, they are also increasingly confronted with the deaths of close friends and relatives. Not everyone copes with these potentially disturbing events in the same way. Some people experience acute distress from which they are unable to recover. Others suffer less intensely and for a much shorter period of time. Some people seem to recover quickly but then begin to experience unexpected health problems or difficulties concentrating or enjoying life the way they used to. However, large numbers of people manage to endure the temporary upheaval of loss or potentially traumatic events remarkably well, with no apparent disruption in their ability to function at work or in close relationships, and seem to move on to new challenges with apparent ease. This article is devoted to the latter group and to the question of resilience in the face of loss or potentially traumatic events.

The importance of protective psychological factors in the prevention of illness is now well established (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Moreover, developmental psychologists have shown that resilience is common among children growing up in disadvantaged conditions (e.g., Masten, 2001). Unfortunately, because most of the psychological knowledge base regarding the ways adults cope with loss or potential trauma has been

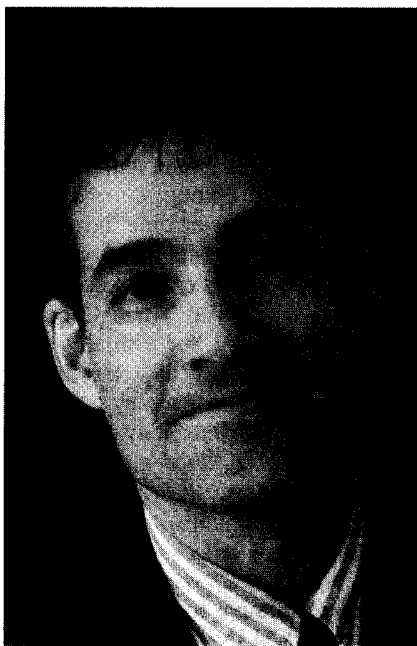
derived from individuals who have experienced significant psychological problems or sought treatment, theorists working in this area have often underestimated and misunderstood resilience, viewing it either as a pathological state or as something seen only in rare and exceptionally healthy individuals. In this article, I challenge this view by reviewing evidence that resilience in the face of loss or potential trauma represents a distinct trajectory from that of recovery, that resilience is more common than often believed, and that there are multiple and sometimes unexpected pathways to resilience.

Point 1: Resilience Is Different From Recovery

A key feature of the concept of adult resilience to loss and trauma, to be discussed in the next two sections, is its distinction from the process of recovery. The term *recovery* connotes a trajectory in which normal functioning temporarily gives way to threshold or subthreshold psychopathology (e.g., symptoms of depression or posttraumatic stress disorder [PTSD]), usually for a period of at least several months, and then gradually returns to pre-event levels. Full recovery may be relatively rapid or may take as long as one or two years. By contrast, *resilience* reflects the ability to maintain a stable equilibrium. In the developmental literature, resilience is typically discussed in terms of protective factors that foster the development of positive outcomes and healthy personality characteristics among children exposed to unfavorable or aversive life circumstances (e.g., Garmezy, 1991; Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Rutter, 1999; Werner, 1995). Resilience to loss and trauma, as conceived in this article, pertains to the ability of adults in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event, such as the death of a close relation or a violent or life-threatening situation, to maintain relatively stable, healthy levels of psychological and physical functioning. A further distinction is that resilience is more than the simple absence of psychopathology. Recovering individuals often

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experience subthreshold symptom levels. Resilient individuals, by contrast, may experience transient perturbations in normal functioning (e.g., several weeks of sporadic preoccupation or restless sleep) but generally exhibit a stable trajectory of healthy functioning across time, as well as the capacity for generative experiences and positive emotions (Bonanno, Papa, & O'Neill, 2001). The prototypical resilience and recovery trajectories, as well as chronic and delayed disruptions in functioning, are illustrated in Figure 1.

In the loss and trauma literatures, researchers have tended to assume a unidimensional response with little variability in possible outcome trajectory among adults exposed to potentially traumatic events. Bereavement theorists have tended to assume that coping with the death of a close friend or relative is necessarily an active process that can and in most cases should be facilitated by clinical intervention. Trauma theorists have focused their attentions primarily on interventions for PTSD. Nonetheless, trauma theorists and practitioners have at times assumed that virtually all individuals exposed to violent or life-threatening events could benefit from active coping and professional intervention. In this section, I discuss how the failure of the loss and trauma literatures to adequately distinguish resilience from recovery relates to current controversies about when and for whom clinical intervention might be most appropriate. This failure also helps explain why in some cases clinical interventions with exposed individuals are sometimes ineffective or even harmful.

The Grief Work Assumption

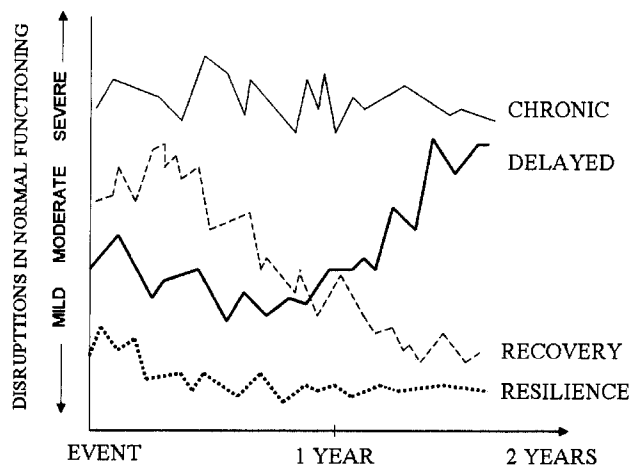
Traditionally, mental health professionals in the industrialized West have understood grief and bereavement from a single dominant perspective characterized by the need for

grief work (Stroebe & Stroebe, 1991). The conception of grieving as work originated in Freud's (1917/1957) metaphorical use of the term to describe the idea that virtually every bereaved individual needs to review "each single one of the memories and hopes which bound the libido . . . to the non-existent object" (p. 154). Theorists following Freud emphasized even more strongly the critical importance to all bereaved individuals of *working through* the negative thoughts, memories, and emotions about a loss (see Bonanno & Field, 2001).

As researchers began to devote more attention to the bereavement process, however, it became apparent that, despite the near unanimity with which mental health professionals endorsed the grief work perspective, there was a surprising lack of empirical support for such a view (Wortman & Silver, 1989). What's more, recent studies that have directly examined the legitimacy of the grief work approach have not only failed to support this approach but actually suggest that it may be harmful for many bereaved individuals to engage in such practices (see Bonanno & Kaltman, 1999). A more plausible alternative would be that grief work processes are appropriate for only a subset of bereaved individuals (Stroebe & Stroebe, 1991), most likely those actively struggling with the most severe levels of grief and distress (Bonanno et al., 2001).

The idea that grief work may characterize only the more highly distressed bereaved individuals (i.e., those exhibiting either the recovery or chronic symptom trajectories) is further supported by data indicating that the practice of engaging a wide array of bereaved individuals in grief counseling has proved remarkably ineffective. Grief-focused interventions typically target both acute or prolonged grief reactions as well as the absence of a grief reaction (e.g., Rando, 1992). Two recent meta-analyses

Figure 1
Prototypical Patterns of Disruption in Normal Functioning Across Time Following Interpersonal Loss or Potentially Traumatic Events



independently reached the conclusion that grief-specific therapies tend to be relatively inefficacious (Kato & Mann, 1999; Neimeyer, 2000). A third meta-analytic study reported that grief therapies can be effective but generally to a lesser degree than usually observed for other forms of psychotherapy (Allumbaugh & Hoyt, 1999). In one of these analyses, an alarming 38% of the individuals receiving grief treatments actually got worse relative to no-treatment controls, whereas the most clear benefits were evidenced primarily with bereaved individuals experiencing chronic grief (Neimeyer, 2000). In summarizing these findings, Neimeyer (2000) concluded that "such interventions are typically ineffective, and perhaps even deleterious, at least for persons experiencing a normal bereavement" (p. 541).

Trauma Interventions and Critical Incident Debriefing

Although for centuries practitioners have linked violent or life-threatening events with psychological and physiological dysfunction, historically there also has been confusion and controversy over the nature of traumatic events and over whether to consider psychological reactions as malingering, weakness, or genuine dysfunction (Lamprecht & Sack, 2002). The inclusion of the PTSD category in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed. [DSM-III]; American Psychiatric Association, 1980) resulted in a surge of research and theory about clinically significant trauma reactions. There is now considerable support for the usefulness of interventions with individuals meeting PTSD criteria. Cognitive-behavioral treatments that aim to help traumatized individuals understand and manage the anxiety and fear associated with trauma-related stimuli have proved the most effective (Resick, 2001). Although outcome studies generally show few differences between treatments, there is some evidence for superior results with prolonged exposure therapy (e.g., Foa et al., 1999). The essential components of exposure treatment usually involve repeated confrontations with memories of the traumatic stressor (imaginal exposure) and with situations that evoke unrealistic fears (in vivo exposure; Zoellner, Fitzgibbons, & Foa, 2001).

Ironically, the effectiveness of reliving traumatic experiences for individuals with PTSD may have helped blur the distinction between recovery and resilience. Researchers have made remarkably few attempts to distinguish subgroups within the broad category of individuals not showing PTSD. Resilient and recovering individuals are often lumped into a single category (e.g., King, King, Foy, Keane, & Fairbank, 1999; McFarlane & Yehuda, 1996). As with bereavement, however, when researchers do not address this distinction, they risk making the faulty assumption that resilient people must engage in the same coping processes as do exposed individuals who struggle with but eventually recover from more intense trauma symptoms.

The possible untoward nature of this assumption is evidenced keenly in the often contentious debate about the appropriateness of psychological debriefing. Whereas genuinely traumatized individuals were once doubted as malingerers, the pendulum has recently swung so far in the

opposite direction that many practitioners believe that virtually all individuals exposed to violent or life-threatening events should be offered and would benefit from at least some form of brief intervention. Critical incident stress debriefing was originally developed for relatively limited use as a brief group intervention to help mitigate psychological distress among emergency response personnel (Mitchell, 1983). Over time, however, debriefing has been applied individually and broadly (Mitchell & Everly, 2000) and sometimes, as after the recent September 11th terrorist attacks on the World Trade Center (Miller, 2002), as a blanket intervention for virtually all exposed individuals. Critics of psychological debriefing argue, however, that such a broad application may pathologize normal reactions to adversity and thus may undermine natural resilience processes. Indeed, growing evidence shows that global applications of psychological debriefing are ineffective (Rose, Brewin, Andrews, & Kirk, 1999) and can impede natural recovery processes (Bisson, Jenkins, Alexander, & Bannister, 1997; Mayou, Ehlers, & Hobbs, 2000).

An alternative form of early trauma intervention, recently proposed by Litz, Gray, Bryant, and Adler (2002), resonates with the distinction proposed here between resilience and recovery. Litz et al. argued that, while offering debriefing to all individuals exposed to a potentially traumatic event is misguided, some individuals would indeed benefit from early intervention. They proposed the development of initial screening practices for intervention with individuals who show possible risk factors (e.g., prior trauma, low social support, hyperarousal) for developing chronic PTSD. Implicit in this approach is the idea, central to the current article, that many individuals exposed to violent or life-threatening events will show a genuine resilience that should not be interfered with or undermined by clinical intervention.

Point 2: Resilience Is Common

Because research on acute and chronic grief and PTSD historically has dominated the literature on how adults cope with aversive life events, such reactions have generally come to be viewed as the norm. As I discuss below, bereavement theorists have been highly skeptical about individuals who do not show pronounced distress reactions or who display positive emotions following loss, assuming that such individuals are rare and suffer from pathological or dysfunctional forms of absent grief. Trauma theorists have been less suspicious about the absence of PTSD but have often ignored and underestimated resilience. A review of the available research on loss and violent or life-threatening events clearly indicates that the vast majority of individuals exposed to such events do not exhibit chronic symptom profiles and that many and, in some cases, the majority show the type of healthy functioning suggestive of the resilience trajectory.

Resilience to Loss

Bereavement theorists have typically viewed the absence of prolonged distress or depression following the death of an

important friend or relative, often termed *absent grief*, as a rare and pathological response that results from denial or avoidance of the emotional realities of the loss. Bowlby (1980), for example, described the "prolonged absence of conscious grieving" (p. 138) as a type of disordered mourning and viewed the experience or expression of positive emotions during the early stages of bereavement as a form of defensive denial. Summarizing the first wave of bereavement research, Osterweis, Solomon, and Green (1984) concluded "that the absence of grieving phenomena following bereavement represents some form of personality pathology" (p. 18). More recently, in a survey of self-identified bereavement experts, the majority (65%) endorsed beliefs that absent grief exists, that it usually stems from denial or inhibition, and that it is generally maladaptive in the long run (Middleton, Moylan, Raphael, Burnett, & Martinek, 1993). These same bereavement experts (76%) also endorsed the compatible assumption that absent grief eventually surfaces in the form of delayed grief reactions.

The available empirical literature, however, suggests a very different story: Resilience to the unsettling effects of interpersonal loss is not rare but relatively common, does not appear to indicate pathology but rather healthy adjustment, and does not lead to delayed grief reactions. Over a decade ago, Wortman and Silver (1989) first drew attention to the somewhat startling fact that there was no empirical basis for either the assumption that the absence of distress during bereavement is pathological or that it is always followed by delayed manifestations of grief. Unfortunately, at the time their article was published, there were relatively few longitudinal bereavement studies from which to fully evaluate their claim.

More recent prospective studies have now begun to shed greater light on individual differences in grief reactions (for a review, see Bonanno & Kaltman, 2001). Although the *DSM* has not specified a unique category for acute or complicated grief reactions, the available research generally shows that chronic depression and distress tend to occur in 10% to 15% of bereaved individuals. Considerable numbers of bereaved individuals also tend to show more time-limited disruptions in functioning (e.g., cognitive disorganization, dysphoria, health deficits, disrupted social and occupational functioning) lasting at least several months to one or two years. Most important, in studies that report aggregate data, bereaved individuals who exhibited relatively low levels of depression or distress have consistently approached or exceeded 50% of the sample. For example, in a recent study that examined various levels of depression among conjugally bereaved adults, approximately half of a sample did not show even mild depression (these individuals endorsed fewer than two items from the *DSM-IV* symptom list) following the loss (Zisook, Paulus, Shuchter, & Judd, 1997). In addition, there is now solid prospective evidence that associates resilience to loss with the experience and expression of positive emotion (e.g., Bonanno & Keltner, 1997).

How many of the bereaved individuals who do not exhibit overt grief reactions will eventually develop delayed grief reactions? The evidence is unequivocal on this

point: No empirical study has ever clearly demonstrated the existence of delayed grief. For example, Middleton, Burnett, Raphael, and Martinek (1996) used cluster analyses to examine longitudinal outcome patterns among groups of bereaved spouses, adult children, and parents. Despite their conviction that delayed grief would emerge, Middleton et al. concluded that "no evidence was found for the pattern of response which might be expected for delayed grief" (Middleton et al., 1996, p. 169). Data from a recent five-year longitudinal study indicated a similar conclusion (Bonanno & Field, 2001). This study contrasted the common assumption that delayed grief is a robust phenomenon with an alternative assumption that a few participants might show delayed elevations but only on isolated measures because of random measurement error. The results were consistent with the measurement-error explanation. In fact, when a psychometrically more reliable, weighted composite measure was used, not a single participant evidenced delayed grief.

The idea that the absence of grief is pathological is rooted in the assumptions that bereaved individuals showing this pattern must have had a superficial attachment to the deceased or that they are cold and emotionally distant people (Bowlby, 1980). Such explanations are notoriously difficult to rule out because, for obvious reasons, most bereavement studies take place after the death already has occurred. When measured during bereavement, factors such as the quality of the lost relationship or the situational context of the loss are confounded with current functioning and the possible influence of memory biases (e.g., Safer, Bonanno, & Field, 2001).

However, a recent prospective study provided a rare opportunity to address this issue using data gathered on average three years prior to the death of a spouse (Bonanno, Wortman, et al., 2002). This study provided strong evidence in support of the idea that many bereaved individuals will exhibit little or no grief and that these individuals are not cold and unfeeling or lacking in attachment but, rather, are capable of genuine resilience in the face of loss. Almost half of the participants in this study (46% of the sample) had low levels of depression, both prior to the loss and through 18 months of bereavement, and had relatively few grief symptoms (e.g., intense yearning for the spouse) during bereavement. An examination of the prebereavement functioning of this group revealed no signs of maladjustment; these participants were not rated as emotionally cold or distant by the interviewers, did not report difficulties in their marriages, and did not show dismissive attachment. They did, however, have relatively high scores on several prebereavement measures suggestive of the ability to adapt well to loss (e.g., acceptance of death, belief in a just world, instrumental support). As in previous studies, no unequivocal evidence for delayed grief was found. Finally, it is important to note that even among these resilient individuals, the majority reported experiencing at least some yearning and emotional pangs, and virtually all participants reported intrusive cognition and rumination at some point early after the loss (Bonanno, Wortman, & Nesse, in press). The difference between the

resilient individuals and the other participants, however, was that these experiences were transient rather than enduring and did not interfere with their ability to continue to function in other areas of their lives, including the capacity for positive affect.

Resilience to Violent and Life-Threatening Events

Epidemiological studies estimate that the majority of the U.S. population has been exposed to at least one traumatic event, defined using the *DSM-III* criteria of an event outside the range of normal human experience, during the course of their lives. Although grief and trauma symptoms are qualitatively different, the basic outcome trajectories following trauma tend to form patterns similar to those observed following bereavement (see Figure 1). Summarizing this research, Ozer et al. (2003) recently noted that "roughly 50%–60% of the U.S. population is exposed to traumatic stress but only 5%–10% develop PTSD" (p. 54). However, because there is greater variability in the types and levels of exposure to stressor events, there also tends to be greater variability in PTSD rates over time. Estimates of chronic PTSD have ranged, for example, from 6.6% and 9.9% for individuals experiencing personally threatening and violent events, respectively, during the 1992 Los Angeles riots (Hanson, Kilpatrick, Freedy, & Saunders, 1995), to 12.5% for Gulf War veterans (Sutker, Davis, Uddo, & Ditta, 1995), to 16.5% for hospitalized survivors of motor vehicle accidents (Ehlers, Mayou, & Bryant, 1998), to 17.8% for victims of physical assault (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993).

Although chronic PTSD certainly warrants great concern, the fact that the vast majority of individuals exposed to violent or life-threatening events do not go on to develop the disorder has not received adequate attention. It is well established that many exposed individuals will evidence short-lived PTSD or subclinical stress reactions that abate over the course of several months or longer (i.e., the recovery pattern). For example, a population-based survey conducted one month after the September 11th terrorist attacks in New York City estimated that 7.5% of Manhattan residents would meet criteria for PTSD and that another 17.4% would meet the criteria for subsyndromal PTSD (high symptom levels that do not meet full diagnostic criteria; Galea, Ahern, et al., 2002). As in other studies, a subset eventually developed chronic PTSD, and this was more likely if exposure was high. However, most respondents evidenced a rapid decline in symptoms over time: PTSD prevalence related to 9/11 dropped to only 1.7% at four months and 0.6% at six months, whereas subsyndromal PTSD dropped to 4.0% and 4.7%, respectively, at these times (Galea et al., 2003).

What about exposed individuals who exhibit relatively little distress? Trauma theorists are sometimes surprised when exposed individuals do not show more than a few PTSD symptoms. For example, body handlers in the aftermath of the Oklahoma City bombing have been described as showing "unexpected resilience" (Tucker et al., 2002). Indeed, whereas those who cope well with bereave-

ment are sometimes viewed as cold and unfeeling, those who cope well with violent or life-threatening events are often viewed in terms of extreme heroism. However justified, this practice tends to reinforce the misperception that only rare individuals with "exceptional emotional strength" (e.g., Casella & Motta, 1990) are capable of resilience.

The available evidence suggests that resilience to violent and life-threatening events is far more common. The vast majority of individuals (78.2%) exposed to the 1992 Los Angeles riots reported three or fewer PTSD symptoms (Hanson et al., 1995). Similarly, among hospitalized survivors of motor vehicle accidents (Bryant, Harvey, Guthrie, & Moulds, 2000), the majority (79%) did not meet criteria for PTSD and averaged only 3.3 PTSD symptoms, indicating that many participants must have shown little or no PTSD. In a study of PTSD among Gulf War veterans (Sutker et al., 1995), the majority (62.5%) had no psychological distress when examined within one year of their return to the United States. In their post-9/11 survey, Galea, Resnick, et al. (2002) reported that over 40% of Manhattan residents did not report a single PTSD symptom. Cardena et al. (1994) examined data on a wide range of cognitive, affective, and somatic symptoms (e.g., exaggerated startle, recurrent distressing dreams, fatigue) measured among survivors of five different disaster events within one to four weeks of each event. Although they did not assess the type of specific symptom trajectories that would allow direct inferences about resilient individuals, Cardena et al. did report that "even with such a diverse series of events and forms of data collection . . . the percentages we obtained for immediate reactions to disaster were very similar" (Cardena et al., 1994, p. 387). And their data were consistent with the idea that resilience is common: The vast majority of symptoms they measured were apparent in only a minority of respondents. Finally, although relatively little research has been done on the experience or expression of positive emotion following potentially traumatic events, two recent studies have provided important preliminary data linking positive emotions in the context of trauma with resilient functioning (Colak et al., 2003; Fredrickson, Tugade, Waugh, & Larkin, 2003). Positive emotion is revisited in the final section of this article.

How many exposed individuals eventually show delayed trauma reactions? In contrast to the absence of evidence for delayed grief during bereavement, delayed PTSD does appear to be a genuine, empirically verifiable phenomenon. Nonetheless, delayed PTSD is still relatively infrequent, occurring in approximately 5% to 10% of exposed individuals (Buckley, Blanchard, & Hickling, 1996), and thus applies at best only to a subset of the many individuals who do not show initial PTSD reactions. It is noteworthy, however, that exposed individuals who eventually manifest delayed PTSD tend to have had relatively high levels of symptoms in the immediate aftermath of the stressor event (e.g., Buckley et al., 1996). Thus, these individuals appear to be immediately distinguishable from more truly resilient individuals (see Figure 1).

Perhaps trauma reactions might manifest indirectly through behavioral or health problems? Although PTSD is

frequently comorbid with health and behavior problems, individuals exposed to putative traumatic events sometimes do evidence these problems in the absence of PTSD. As was the case with delayed PTSD, however, even when health and behavior problems are accounted for, many survivors do not show such problems. This was evidenced, for example, in a longitudinal study of survivors of the North Sea oil rig disaster—by all accounts a horrific and disturbing event (Holen, 1990). In the first year following the disaster, 13.7% of the survivors were assigned psychiatric diagnoses (at the time of the study, PTSD was not a well-established diagnosis), compared with only 1.1% of a matched comparison sample. In contrast, medical diagnoses were assigned to 31% of the survivors. Although these rates were markedly higher than those found in the comparison sample (4.5%), they nonetheless underscore the fact that most if not the majority of survivors exhibited neither extreme distress nor unusual health problems.

Point 3: There Are Multiple and Sometimes Unexpected Pathways to Resilience

If resilience and recovery represent distinct trajectories that are informed by different coping habits, then what factors promote resilience? Meta-analytic studies have consistently revealed several clear predictors of PTSD reactions, including lack of social support, low intelligence and lack of education, family background, prior psychiatric history, and aspects of the trauma response itself, such as dissociative reactions (Brewin, Andrews, & Valentine, 2000; Ozer et al., 2003). It seems likely that at least some of these factors, if inverted, would predict resilient functioning. However, relatively little research has attempted to address this question. What's more, because so little attention has been devoted to resilience, when loss and trauma theorists have looked for resilience, they have tended to look in the wrong places. Indeed, the assumption that all adults exposed to loss or to potentially traumatic events experience prolonged distress and disruptions in functioning goes hand in hand with the belief that resilience must be rare and found only in exceptionally healthy people (e.g., Casella & Motta, 1990).

Recent studies suggest a far more complex picture; as developmental psychologists have long asserted, there is no single means of maintaining equilibrium following highly aversive events, but rather there are multiple pathways to resilience (e.g., Luthar, Doernberger, & Zigler, 1993; Rutter, 1987). This evidence further suggests that, contrary to myths about unusually healthy beings, adults resilient to loss or trauma often appear to cope effectively in ways that, under normal circumstances, may not always be advantageous. For example, recall the bereavement study by Bonanno, Wortman, et al. (2002), discussed earlier, that identified a large resilient group with a relatively healthy profile prior to the loss. This study also revealed a second, smaller group of resilient individuals who had improved following the death of their spouse. At prebereavement, members of the improved group had spouses who were ill; were highly

depressed, neurotic, and introspective; had more conflicted, ambivalent marriages; and believed that they were treated less fairly in life than other people. A recent follow-up study of these individuals (Bonanno et al., in press) indicated that they showed no adverse reactions through 18 months of bereavement, gave little indication of denial or avoidance, perceived greater benefits to widowhood, gained increasing comfort from positive memories of their spouses over time, and reported that they too were somewhat surprised by their own coping efficacy. Thus, although dramatically different from the larger resilient group at prebereavement, the improved respondents also appeared to exhibit genuine resilience during bereavement.

In this section, a number of distinct dimensions suggestive of different types or pathways of resilience to loss and trauma are considered.

Hardiness

A growing body of evidence suggests that the personality trait of hardiness (Kobasa, Maddi, & Kahn, 1982) helps to buffer exposure to extreme stress. Hardiness consists of three dimensions: being committed to finding meaningful purpose in life, the belief that one can influence one's surroundings and the outcome of events, and the belief that one can learn and grow from both positive and negative life experiences. Armed with this set of beliefs, hardy individuals have been found to appraise potentially stressful situations as less threatening, thus minimizing the experience of distress. Hardy individuals are also more confident and better able to use active coping and social support, thus helping them deal with the distress they do experience (e.g., Florian, Mikulincer, & Taubman, 1995).

Self-Enhancement

Another dimension linked to resilience is self-enhancement. Somewhat ironically, around the time PTSD was formalized as a diagnostic category, social psychologists had begun to challenge the traditional assumption that mental health requires realistic acceptance of personal limitations and negative characteristics (Greenwald, 1980; Taylor & Brown, 1988). These scholars argued instead that unrealistic or overly positive biases in favor of the self, such as self-enhancement, can be adaptive and promote well-being. Although most people engage in self-enhancing biases at least some of the time, measurable individual differences are also found. Trait self-enhancement has been associated with benefits, such as high self-esteem, but also with costs: Self-enhancers score high on measures of narcissism and tend to evoke negative impressions in others (Paulhus, 1998). This trade-off may be less problematic, however, in the context of highly aversive events, when threats to the self are most salient (Taylor & Brown, 1988).

Support for this idea comes from a recent study of individual differences in self-enhancing biases among bereaved individuals in the United States and among Bosnian civilians living in Sarajevo in the immediate aftermath of the Balkan civil war (Bonanno, Field, Kovacevic, & Kaltman, 2002). In both samples, self-enhancers were rated by mental health professionals as better adjusted. What's

more, self-enhancement proved to be particularly adaptive for bereaved individuals suffering from more severe losses. In a similar study of individuals who were in or near the World Trade Center towers at the time of the September 11th attacks (Bonanno, Rennicke, Dekel, & Rosen, 2003), self-enhancers reported better adjustment and more active social networks and were rated more positively and as better adjusted by their close friends. Further, self-enhancers' salivary cortisol levels exhibited a profile suggestive of minimal stress responding.

Repressive Coping

Resilience to loss and trauma has also been found among another perhaps less likely group: repressive copers (Weinberger, Schwartz, & Davidson, 1979). A considerable body of literature documents that individuals identified by either questionnaire or behavioral measures as repressors tend to avoid unpleasant thoughts, emotions, and memories (Weinberger, 1990). In contrast to hardiness and self-enhancement, which appear to operate primarily on the level of cognitive processes, repressive coping appears to operate primarily through emotion-focused mechanisms, such as emotional dissociation. For instance, repressors typically report relatively little distress in stressful situations but exhibit elevated distress on indirect measures, such as autonomic arousal (Weinberger et al., 1979). Emotional dissociation is generally viewed as maladaptive and may be associated with long-term health costs (Bonanno & Singer, 1990). However, these same tendencies also appear to foster adaptation to extreme adversity. For example, repressors have been found to show relatively little grief or distress at any point across five years of bereavement (Bonanno & Field, 2001; Bonanno, Keltner, Holen, & Horowitz, 1995). Further, although they initially reported increased somatic complaints, over time repressors did not show greater somatic or health problems than other participants. Recently, among a sample of young women with documented histories of childhood sexual abuse, repressors were less likely to voluntarily disclose their abuse when provided the opportunity to do so, but they also showed better adjustment than other survivors (Bonanno, Noll, Putnam, O'Neill, & Trickett, 2003).

Positive Emotion and Laughter

One of the ways repressors and others showing resilience appear to cope well with adversity is through the use of positive emotion and laughter (Bonanno, Noll, et al., 2003; Keltner & Bonanno, 1997). Historically, the possible usefulness of positive emotion in the context of extremely aversive events was either ignored or dismissed as a form of unhealthy denial (e.g., Bowlby, 1980). Recently, however, research has shown that positive emotions can help reduce levels of distress following aversive events both by quieting or undoing negative emotion (Fredrickson & Levenson, 1998; Keltner & Bonanno, 1997) and by "increasing continued contact with and support from important people in the . . . person's social environment" (Bonanno & Keltner, 1997, p. 134).

Several recent studies have supported these ideas in the specific contexts of loss or trauma. Bereaved individuals who exhibited genuine laughs and smiles when speaking about a recent loss had better adjustment over several years of bereavement (Bonanno & Keltner, 1997) and also evoked more favorable responses in observers (Keltner & Bonanno, 1997). Recently, Fredrickson et al. (2003) demonstrated that the links between personality measures of resilience and adjustment following the September 11th attacks were mediated by the experience of positive emotions (e.g., gratitude, interest, love). Finally, the expression of positive emotion among young adult survivors of childhood sexual abuse predicted better adjustment and better social relations over time (Colak et al., 2003). The latter study also suggested, however, that although laughter in the context of a socially stigmatized event like childhood sexual abuse predicts better adjustment, it may also carry social costs (e.g., decreased social competence). Clearly, this is an important area for further research.

Toward a Broader Conceptualization of Stress Responding

The evidence reviewed above presents an important challenge to the view that adults who do not show distress following a loss or violent or life-threatening event are either pathological or rare and exceptionally healthy. Rather, this evidence suggests that resilience is common, is distinct from the process of recovery, and can potentially be reached by a variety of different pathways. What lessons might these points offer for future understanding of human stress responding? Within a broader context, psychologists might try to understand why resilience in the face of loss or trauma has so often been misunderstood by considering the myriad errors and biases in judgment that occur under conditions of uncertainty (e.g., the availability heuristic; Tversky & Kahneman, 1974). Others already have probed the limitations of clinical inference from this perspective (e.g., Dawes, 1994). However, what might be particularly interesting to explore is the frequent failure not only to grasp the prevalence of resilience to loss and trauma but also to comprehend its many forms. Clearly, researchers and theorists need to move beyond overly simplistic conceptions of health and pathology to embrace the broader costs and benefits of various dispositions and adaptive mechanisms. Trade-offs of this sort can be found everywhere in nature. Cheetahs, for example, possess breathtaking speed but have poor stamina and must catch their prey quickly or starve. In a similar vein, people prone to the use of self-enhancing biases enjoy high self-esteem but tend to annoy those who do not know them well (Paulhus, 1998). Overly simplistic conceptions of self-enhancers as dysfunctional obfuscate the coping advantage these individuals show when confronted with truly aversive situations (Bonanno, Field, et al., 2002).

It is imperative that future investigations of loss and trauma include more detailed study of the full range of possible outcomes; simply put, dysfunction cannot be fully understood without a deeper understanding of health and resilience. By viewing resilient functioning through the

same empirical lens as chronic forms of dysfunction and more time-limited recovery patterns, researchers will be able to examine and contrast each of these patterns. Many questions await investigation. A crucial issue pertains to the commonalities and differences in resilient functioning across the life span. Developmental theorists have argued that resilience to aversive childhood contexts results from a cumulative and interactive mix of genetic (e.g., disposition), personal (e.g., family interaction), and environmental (e.g., community support systems) risk and protective factors (Rutter, 1999; Werner, 1995). Although in some ways adult resilience to loss and trauma presents a simpler problem (e.g., the aversive context is centered on a single event, and the developmental issues unfold at a more gradual pace), it is nonetheless crucial to determine how resilience to loss or trauma may vary across the life span, how adult resilience relates to developmental experiences, and whether the various factors that inform adult resilience might also function in a cumulative and interactive manner (McFarlane & Yehuda, 1996). Researchers might also ask whether adults can learn to be more resilient to aversive events by, for example, extending some of the wellness-promotion factors developed for children (e.g., Cowen, 1991) or whether different protective factors foster resilience for different types of events, as has been suggested by studies of risk factors for PTSD (Brewin et al., 2000). As we move into the next millennium, it will be imperative to address these questions and to take a fresh look at the various ways people adapt and even flourish in the face of what otherwise would seem to be potentially debilitating events.

REFERENCES

- Allumbaugh, D. L., & Hoyt, W. T. (1999). Effectiveness of grief therapy: A meta-analysis. *Journal of Counseling Psychology, 46*, 370-380.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- Bisson, J., Jenkins, P. L., Alexander, J., & Bannister, C. (1997). Randomised controlled trial of psychological debriefing for victims of burn trauma. *British Journal of Psychiatry, 171*, 78-81.
- Bonanno, G. A., & Field, N. P. (2001). Examining the delayed grief hypothesis across five years of bereavement. *American Behavioral Scientist, 44*, 798-806.
- Bonanno, G. A., Field, N. P., Kovacevic, A., & Kaltman, S. (2002). Self-enhancement as a buffer against extreme adversity: Civil war in Bosnia and traumatic loss in the United States. *Personality and Social Psychology Bulletin, 28*, 184-196.
- Bonanno, G. A., & Kaltman, S. (1999). Toward an integrative perspective on bereavement. *Psychological Bulletin, 125*, 760-776.
- Bonanno, G. A., & Kaltman, S. (2001). The varieties of grief experience. *Clinical Psychology Review, 21*, 705-734.
- Bonanno, G. A., & Keltner, D. (1997). Facial expressions of emotion and the course of conjugal bereavement. *Journal of Abnormal Psychology, 106*, 126-137.
- Bonanno, G. A., Keltner, D., Holen, A., & Horowitz, M. J. (1995). When avoiding unpleasant emotions might not be such a bad thing: Verbal-autonomic response dissociation and midlife conjugal bereavement. *Journal of Personality and Social Psychology, 69*, 975-989.
- Bonanno, G. A., Noll, J. G., Putnam, F. W., O'Neill, M., & Trickett, P. (2003). Predicting the willingness to disclose childhood sexual abuse from measures of repressive coping and dissociative experiences. *Child Maltreatment, 8*, 1-17.
- Bonanno, G. A., Papa, A., & O'Neill, K. (2001). Loss and human resilience. *Applied and Preventive Psychology, 10*, 193-206.
- Bonanno, G. A., Rennie, C., Dekel, S., & Rosen, J. (2003). *Self-enhancement and resilience among survivors of the September 11th terrorist attack on the World Trade Center*. Manuscript in preparation.
- Bonanno, G. A., & Singer, J. L. (1990). Repressor personality style: Theoretical and methodological implications for health and pathology. In J. L. Singer (Ed.), *Repression and dissociation* (pp. 435-470). Chicago: University of Chicago Press.
- Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., et al. (2002). Resilience to loss and chronic grief: A prospective study from pre-loss to 18 months post-loss. *Journal of Personality and Social Psychology, 83*, 1150-1164.
- Bonanno, G. A., Wortman, C. B., & Nesse, R. M. (in press). Patterns of resilience and maladjustment before and after the death of a spouse. *Psychology and Aging*.
- Bowlby, J. (1980). *Loss: Sadness and depression: Vol. 3. Attachment and loss*. New York: Basic Books.
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68*, 748-766.
- Bryant, R. A., Harvey, A. G., Guthrie, R. M., & Moulds, M. L. (2000). A prospective study of psychophysiological arousal, acute stress disorder, and posttraumatic stress disorder. *Journal of Abnormal Psychology, 109*, 341-344.
- Buckley, T. C., Blanchard, E. B., & Hickling, E. J. (1996). A prospective examination of delayed onset PTSD secondary to motor vehicle accidents. *Journal of Abnormal Psychology, 103*, 617-625.
- Cardena, E., Holen, A., McFarlane, A., Solomon, Z., Wilkinson, C., & Spiegel, D. (1994). A multisite study of acute stress reactions to a disaster. In T. A. Widiger, A. J. Frances, H. A. Pincus, R. Ross, M. B. First, W. Davis, & M. Kline (Eds.), *DSM-IV sourcebook* (pp. 377-391). Washington DC: American Psychiatric Association.
- Casella, L., & Motta, R. W. (1990). Comparison of characteristics of Vietnam veterans with and without posttraumatic stress disorder. *Psychological Reports, 67*, 595-605.
- Colak, D., Bonanno, G. A., Keltner, D., Noll, J. G., Putnam, F. W., & Trickett, P. (2003). *Positive emotion and long-term adjustment among young adult survivors of childhood sexual abuse*. Manuscript in preparation.
- Cowen, E. L. (1991). The pursuit of wellness. *American Psychologist, 46*, 404-408.
- Dawes, R. M. (1994). *House of cards*. New York: Free Press.
- Ehlers, A., Mayou, R. A., & Bryant, B. (1998). Psychological predictors of chronic posttraumatic stress disorder after motor vehicle accidents. *Journal of Abnormal Psychology, 107*, 508-519.
- Florian, V., Mikulincer, M., & Taubman, O. (1995). Does hardiness contribute to mental health during a stressful real-life situation? The roles of appraisal and coping. *Journal of Personality and Social Psychology, 68*, 687-695.
- Foa, E. B., Dancu, C. V., Hembree, E. A., Jaycox, L. H., Meadows, E. A., & Street, G. P. (1999). A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology, 67*, 194-200.
- Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion, 12*, 191-220.
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotion following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*, 365-376.
- Freud, S. (1957). Mourning and melancholia. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 152-170). London: Hogarth Press. (Original work published 1917)
- Galea, S., Ahern, J., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., & Vlahov, D. (2002). Psychological sequelae of the September 11 terrorist attacks in New York City. *New England Journal of Medicine, 346*, 982-987.
- Galea, S., Resnick, H., Ahern, J., Gold, J., Bucuvalas, M., Kilpatrick, D., et al. (2002). Posttraumatic stress disorder in Manhattan, New York

- City, after the September 11th terrorist attacks. *Journal of Urban Health Studies*, 79, 340–353.
- Galea, S., Vlahov, D., Resnick, H., Ahern, J., Ezra, S., Gold, J., et al. (2003). Trends of probably post-traumatic stress disorder in New York City after the September 11th terrorist attacks. *American Journal of Epidemiology*, 158, 514–524.
- Garmezy, N. (1991). Resilience and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist*, 34, 416–430.
- Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history. *American Psychologist*, 35, 603–618.
- Hanson, R. F., Kilpatrick, D. G., Freedy, J. R., & Saunders, B. E. (1995). Los Angeles County after the 1992 civil disturbance: Degree of exposure and impact on mental health. *Journal of Consulting and Clinical Psychology*, 63, 987–996.
- Holen, A. (1990). *A long-term outcome study of survivors from a disaster: The Alexander L. Kielland disaster in perspective*. Oslo, Norway: University of Oslo Press.
- Kato, P. M., & Mann, T. (1999). A synthesis of psychological interventions for the bereaved. *Clinical Psychology Review*, 19, 275–296.
- Keltner, D., & Bonanno, G. A. (1997). A study of laughter and dissociation: Distinct correlates of laughter and smiling during bereavement. *Journal of Personality and Social Psychology*, 73, 687–702.
- King, D. W., King, L. A., Foy, D. W., Keane, T. M., & Fairbank, J. A. (1999). Posttraumatic stress disorder in a national sample of female and male Vietnam veterans: Risk factors, war-zone stressors, and resilience–recovery variables. *Journal of Abnormal Psychology*, 108, 164–170.
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42, 168–177.
- Lamprecht, F., & Sack, M. (2002). Posttraumatic stress disorder revisited. *Psychosomatic Medicine*, 64, 222–237.
- Litz, B. T., Gray, M. J., Bryant, R. A., & Adler, A. B. (2002). Early intervention for trauma: Current status and future directions. *Clinical Psychology: Science and Practice*, 9, 112–134.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71, 543–562.
- Luthar, S. S., Doernberger, C. H., & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a prospective study of inner-city adolescents. *Development and Psychopathology*, 5, 703–717.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227–238.
- Mayou, R. A., Ehlers, A., & Hobbs, M. (2000). Psychological debriefing for road traffic accident victims. *British Journal of Psychiatry*, 176, 589–593.
- McFarlane, A. C., & Yehuda, R. (1996). Resilience, vulnerability, and the course of posttraumatic reactions. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress* (pp. 155–181). New York: Guilford Press.
- Middleton, W., Burnett, P., Raphael, B., & Martinek, N. (1996). The bereavement response: A cluster analysis. *British Journal of Psychiatry*, 169, 167–171.
- Middleton, W., Moylan, A., Raphael, B., Burnett, P., & Martinek, N. (1993). An international perspective on bereavement related concepts. *Australian and New Zealand Journal of Psychiatry*, 27, 457–463.
- Miller, J. (2002). Affirming flames: Debriefing survivors of the World Trade Center attack. *Brief Treatment and Crisis Intervention*, 21, 85–94.
- Mitchell, J. T. (1983). When disaster strikes...: The critical incident stress debriefing process. *Journal of Emergency Medical Services*, 8, 36–39.
- Mitchell, J. T., & Everly, G. S., Jr. (2000). Critical incident stress management and critical incident stress debriefing: Evolutions, effects, and outcomes. In B. Raphael & J. P. Wilson (Eds.), *Psychological debriefing: Theory, practice, and evidence* (pp. 71–90). Cambridge, England: Cambridge University Press.
- Neimeyer, R. A. (2000). Searching for the meaning of meaning: Grief therapy and the process of reconstruction. *Death Studies*, 24, 541–558.
- Osterweis, M., Solomon, F., & Green, F. (1984). *Bereavement: Reactions, consequences, and care*. Washington, DC: National Academy Press.
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin*, 129, 52–71.
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology*, 74, 1197–1208.
- Rando, T. A. (1992). The increasing prevalence of complicated mourning: The onslaught is just beginning. *Omega*, 26, 43–59.
- Resnick, P. A. (2001). *Stress and trauma*. Philadelphia: Taylor and Francis.
- Resnick, H. S., Kilpatrick, D. G., Dansky, B. S., Saunders, B. E., & Best, C. L. (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology*, 61, 984–991.
- Rose, S., Brewin, C. R., Andrews, B., & Kirk, M. (1999). A randomized controlled trial of individual psychological debriefing for victims of violent crime. *Psychological Medicine*, 29, 793–799.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57, 316–331.
- Rutter, M. (1999). Resilience concepts and findings: Implications for family therapy. *Journal of Family Therapy*, 21, 119–144.
- Safer, M. A., Bonanno, G. A., & Field, N. P. (2001). It was never that bad: Biased recall of grief and long-term adjustment to the death of a spouse. *Memory*, 9, 195–204.
- Stroebe, M. S., & Stroebe, W. (1991). Does “grief work” work? *Journal of Consulting and Clinical Psychology*, 59, 479–482.
- Sutker, P. B., Davis, J. M., Uddo, M., & Ditta, S. R. (1995). War zone stress, personal resources, and PTSD in Persian Gulf War returnees. *Journal of Abnormal Psychology*, 104, 444–452.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193–210.
- Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American Psychologist*, 55, 99–109.
- Tucker, P., Pfefferbaum, B., Doughty, D. B., Jones, D. E., Jordan, F. B., & Nixon, S. J. (2002). Body handlers after terrorism in Oklahoma City: Predictors of posttraumatic stress and other symptoms. *American Journal of Orthopsychiatry*, 72, 469–475.
- Tversky, A., & Kahneman, D. (1974, September 27). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131.
- Weinberger, D. A. (1990). The construct validity of the repressive coping style. In J. L. Singer (Ed.), *Repression and dissociation: Implications for personality theory, psychopathology and health* (pp. 337–386). Chicago: University of Chicago Press.
- Weinberger, D. A., Schwartz, G. E., & Davidson, R. J. (1979). Low-anxious and repressive coping styles: Psychometric patterns of behavioral and physiological responses to stress. *Journal of Abnormal Psychology*, 88, 369–380.
- Werner, E. E. (1995). Resilience in development. *Current Directions in Psychological Science*, 4, 81–85.
- Wortman, C. B., & Silver, R. C. (1989). The myths of coping with loss. *Journal of Consulting and Clinical Psychology*, 57, 349–357.
- Zisook, S., Paulus, M., Shuchter, S. R., & Judd, L. L. (1997). The many faces of depression following spousal bereavement. *Journal of Affective Disorders*, 45, 85–94.
- Zoellner, L. A., Fitzgibbons, L. A., & Foa, E. B. (2001). Cognitive-behavioral approaches to PTSD. In J. P. Wilson, M. J. Friedman, & J. D. Lindy (Eds.), *Treating psychological trauma and PTSD* (pp. 159–182). New York: Guilford Press.